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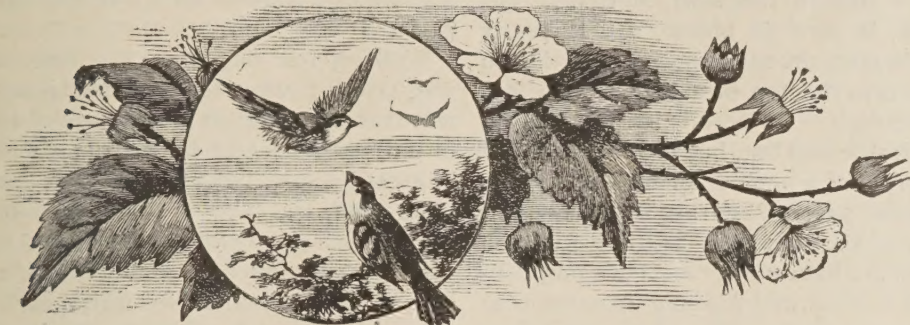
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VICKS MAGAZINE

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No. 9



A SUMMER-DAY RYHME.

*The buttercups bloom in the meadow, the clover nods on the hill,
And the violets blow in the shadows where the summer winds are still;
The breezes, in wild commotion, sweep down from the steep hill side,
And the meadow sways like an ocean at the rising of the tide;
The sunshine drifts like a shower across the billowy grass,
And sprinkles with gold each flower that laughs to see it pass;
I can hear the honeybees humming as they gather in their sweets,
And I hear the whispers coming from the water nymphs' retreat;
The pinks by the walk are bending their stately heads to the gale,
And the lilies their sweets are spending where the morning-glories pale;
The robin sings on the cherry a song that is plaintive and sweet,
And the blackbird's answer is merry as he looks at the ripening wheat;
The mountains are wrapped in a grandeur of purple and rosy mist,
And the sunshine glitters like amber through the shadows' amethyst;
There is peace over hill and meadow, and the brook sings a song of rest
As it runs away in the shadow across the green earth's breast;
I hear the song of the mowers, I see the sharp scythes' gleam,
And the life of the grass is over, vanished as fades a dream.
Oh summer, whose radiant sweetness will fade in the frost-wind's breath,
The glory of your completeness presages the change of death.
Robed like a queen at her crowning, in the brightness of your charms,
You will fall asleep forever in the royal autumn's arms.
And shrouded in regal splendor they will lay you down to rest,
And with dead leaves cover you over on the kind earth-mother's breast.*

—Eben E. Rexford.

SPRING AND SUMMER IN MY GARDEN.

APRIL 12th. A little "wild" hyacinth* whose specific name I do not know, is in sight, the snow just gone from over it. It is a neat, pretty plant of high merit, early, perfectly hardy, fragrant, and continuing a long time in bloom, coming at a time when its erect spikes of pale lilac flowers and fine, smooth, dark green leaves are very conspicuous. No seedman sells it, so far as I know, but all ought to; it is a plant for the million, a good thing for all who like to see their plants re-appear with each returning spring; it is exactly the same as a Holland hyacinth except for its more slender habit and

smaller flowers, its stem being about a foot high. The six little bulbs I set a year ago last fall are now increased to seventeen. It comes with the crocus, chionodoxa and scilla, but lasts a long time after all these have gone. A neighbor has a variety of it apparently just the same, except that the color is dark blue. These small kinds will not supplant the hyacinths of the catalogues, but they have good qualities of their own. One becomes attached to an unfailing perennial even if not very splendid.

April 20th. The *Narcissus Leedsii* just coming into bloom today is a fine plant of ironclad hardiness, rather early, fragrant,

and good in every way. Its perianth is nearly white, the short corona is bright yellow, fading somewhat with age. A good clump, with its grass-like leaves and large, partly drooping, starry flowers, is a good thing at this season, and a single bulb soon becomes a large mass. It belongs with the first green of the lawn and the budding trees. It has not, so far, with me fallen into the bad habit of some of the narcissi of blasting their buds,—every bud becomes a flower,—and it should be planted largely.

The colt's-foot, *Tussilago farfara*, has one drawback—it grows wild! Yet it is a fine plant, almost congeneric with the high-toned Leopard plant or Joseph's Skull, *Farfugium grande*. Its bright yellow flowers are pretty and cheerful, covering the bare ground before a leaf has started; they do not look at all like dandelions at a near view. Garden culture makes the handsome leaves immense,—almost like a clump of well-grown pie plant for size. It is here in the crevices and at the foot of large blocks of rough stone which hold the earth of a terrace, and it is a success. Try it in some little nook; once established it remains.

May 1st. I well remember my delight and amazement when, in a yard some miles from home, I saw my first *Dicentra spectabilis* (Chinese dicentra). It was, as I know now, a poor little thing with only a few leaves and one spray of bloom, but I could not imagine how any flower could possibly be more graceful and beautiful; in fact I am not sure I can imagine it yet, after growing it so many years. I am told it is not quite hardy in Minnesota; if so, Minnesota should be moved toward the south. A freeze, such as we had last year, coming when it is nearly in bloom, cuts it to the ground, but its dull purple buds, when only an inch or two high, can be frozen up for days and snowed under any number of times without the least injury. It comes really from Siberia, they say, and every year, as its flowers begin to shine, I have a vision of forest glades, or rocky slopes, or brooksides sown with it, tossing and swinging in the breeze and sunlight of the antipodes. A mailing plant soon makes a large clump; I divided one not long ago into nine parts, when, of course, it was nine times better than before. It never bears seeds in this country, but the root may be divided—in fall, after the foliage is dead, is the best time.

* Perhaps *Muscari racemosum*.

A mulch of chip dirt or old manure and an occasional hoeing are all it wants.

May 3d. The Japan quince is not a constant quantity; its variations when grown from seed are perhaps endless; at least I see many forms, some early, others late, with differences in habit not easily described but plainly seen. It is indeed a



IVY-LEAVED GERANIUM.

lovely plant, hardy as a pine, with no insect enemies or diseases, so far as I know, with clear, shining foliage and glowing flowers. Here are shoots grown last year, sixty-five inches long, which, considering the drouth, is not so bad. A mulch of manure dirt and an annual hoeing has been the culture. No shrub comes nearer being indispensable,—if you have but a few shrubs let one be a Japan quince. A short time ago its highest twigs just stuck out of a snow-drift,—today there is the beauty of young foliage and rich clusters of crimson blossoms. A few flowers, weeks later than the main bloom, are followed here, with me, by wooden fruit having no flavor or fragrance,—another item in the list of variations, no doubt. Those who speak of the fruit as valuable would not try mine the second time.

May 6th. Our lively and energetic winter has at least one good result: It prepares us to appreciate the spring when it has come. Such a change seen for the first time by adult eyes would be thought miraculous. Here, where the snow piled high and keen-edged winds whistled, are now great masses of purple-budded lilacs just beginning to open here and there; thousands of flowers of the "myrtle" or blue periwinkle, cover the slope, and the calm, dewy air of early morning is steeped in the fragrance of the golden flowers of the Missouri currant, three good old plants which do a deal of decorating without much fussing. The lilacs, left to themselves for twenty years, are great rounded masses or mounds of foliage and flowers, the myrtle creeps at will, and the currant seems bending with its weight of yellow bloom.

The reader, perhaps, will notice that I

do not come out very strong on the newer roses, gloxinias, or fancy varieties of coleus; plants that dispense with petting and once established can mostly care for themselves, are the best, in my opinion, and any species which can face the grim realities of my soil and climate may be considered as hardy and reliable by most of you, unless it may be you are too far south.

The smooth lungwort, *Mertensia Virginica*, is now in bloom, a very pretty bell-formed, drooping flower, growing in clusters at the top of a leafy stem a foot or two high. Its corolla, of one piece, is blue inside and out, but the buds are red or purple of a number of tints, according to their age. They are scentless and ripen no seed with me. The large, smooth leaves are handsome, their buds purplish-black in color and pushing up as soon as the snow is gone. The whole plant soon



BASKET OF IVY.

ripens and goes; annuals or perennials may spread themselves above its dormant roots as if were a tulip or scilla. A clump will bloom every year for a lifetime, but it spreads slowly or not at all. It is a native and some of you have it wild.

A single narcissus, *N. poeticus ornatus*, is coming into bloom just as *N. Leedsii* is fading, thus lengthening the narcissus season. Its perianth is pure white, with broad and overlapping petals; its filled corona has an edge of orange scarlet. It is a good plant, hardy, vigorous and showy, increasing rapidly and has never blasted its buds so far.

The spring snowflake, *Leucojum vernum*, though its flowers are arranged differently,—coming one or two or more at a time from a sheath,—might almost pass for a magnified lily of the valley; its blossoms droop as gracefully, and the outside is all that you see until you raise it up. There is a bright green spot on each petal

close to the the tip, the inside is lined with yellowish-white on a pure white ground. The narcissus-like leaves are a foot high. It is perfectly hardy and increases somewhat; not very showy from a distance, a quiet little nook where it can grow and hang out its white bells year after year undisturbed is its best place. To keep clear from grass and weeds is the culture, though a mulch of leaf mold or manure dirt is good for it,—or any other plant.

Walking one day along the Erie railway track, I went to see what plant it was that showed such an expanse of blue or purple, and soon I waded to my knees in great beds of Jacob's ladder, *Polemonium reptans*. The ground seemed to have been a pond early in spring and was yet very swampy and wet. Taking the hint, I lately divided my forty-year-old clump and set sods of it in a damp spot where its drooping flowers of blue are now opening. Its foliage makes a dense mat on the ground! its pinnate leaves are neat and pretty. It will grow without complaint in dry ground, but prefers the waterside.

The pyrethrum, "golden feather," a fine yellow foliage plant, is, I find, perfectly hardy and selfsows freely; hoeing up the thousands you do not want is all there is of its cultivation. And it is as good, perhaps, as yellow coleus for edgings, etc. Allow a plant to flower and sow the seed as soon as ripe.

In this way plenty of plants can be raised which will do duty in the same place for a number of years, though after



BASKET OF ASSORTED PLANTS.

the second year some of them will begin to appear a little shabby. By removing in the spring such as show signs of dilapidation, and filling in strong plants which have been kept in a reserve bed, a border of this yellow pyrethrum can be kept in good appearance four or five years.

E. S. GILBERT.

HANGING BASKETS.

BASKETS of growing plants, in a thrifty condition, are handsome ornaments, and they enable us to place plants in excellent positions, bringing them into view when otherwise the space would be vacant. By being easy to move from place to place they serve to fit up and decorate rooms for special occasions. Thus they are better adapted to change of location and effective arrangement for ornamentation than are potted plants, and also often superior for such uses than cut flowers, though both of these have their role to play—their particular uses—distinct from that of hanging baskets.

In producing a fine basket of plants much depends on the plants employed, and much, also, upon the care of it. Unless the basket is well grown—the term is used collectively—it utterly fails in its mission, and instead of being an ornament it is an annoying offense to good taste. Unless one is willing to learn the care required, and to give the necessary attention to maintain the plants in a healthy, growing state, the plant basket should be left to those more in sympathy with the work. As the directions which will here be given are intended for the amateur and not for the professional gardener, they will relate to the standpoint of the former. As a rule, hanging baskets

are made up each spring with the purpose of placing them under the veranda or porch or some similar open air position. The time, therefore, for taking them in hand and filling them, will depend on the locality and climate. "Away down South in Dixie," and especially in the Gulf regions, they may be nearly or quite perennial ornaments, and even in the Middle regions they may be easily sheltered during the short winter. In the cold North, during the long winter, hanging baskets cannot be kept in good condition in living rooms, and, therefore, they are, for the most part, allowed to go to waste at the advent of winter. From early in March to May, according to locality, they can be renewed to the best advantage,—the plants to be used in them having been brought to a sufficient size for the purpose, whether raised from cuttings or from seeds.

The basket or vessel may be of different materials. Rustic baskets of wood are often seen, and dwellers in the country can easily and cheaply construct them from the young growth of different kinds of trees and the older wood of the grape vine. Different styles in pottery are employed, but by far the greater number are made of wire. The last, as well as those made of wood, it is necessary to line with moss to hold the soil. The layers of green moss found growing on the ground and on fallen logs in the woods are carefully gathered for the purpose. When moss of this character cannot be had, then the common swamp sphagnum or packing moss is used.

The soil should be such as would be employed for potting house plants of the ordinary class: About two parts of good

some of these are delicate grasses, and some are pretty blooming plants with small, but bright colored flowers. Usually several plants of different kinds and habits are placed in a basket, but sometimes handsome baskets are formed from a single plant or several plants of one kind that has the necessary elements of grace and beauty in itself. One of the handsomest baskets the writer ever saw consisted of a single ivy-leaved geranium; in the luxuriance and abundance of its growth it was unsurpassable, and the illustration here presented of a basket of ivy-leaved geranium can convey but a faint conception of its rich beauty, with its glossy leaves hanging in masses on every side and lighted up by its bright blossoms. The plant had been carefully tended and kept growing without disturb-

ance for three years.

The English ivy and the German ivy are both used in the same manner, but neither is so good in this way as the ivy-leaved geranium.

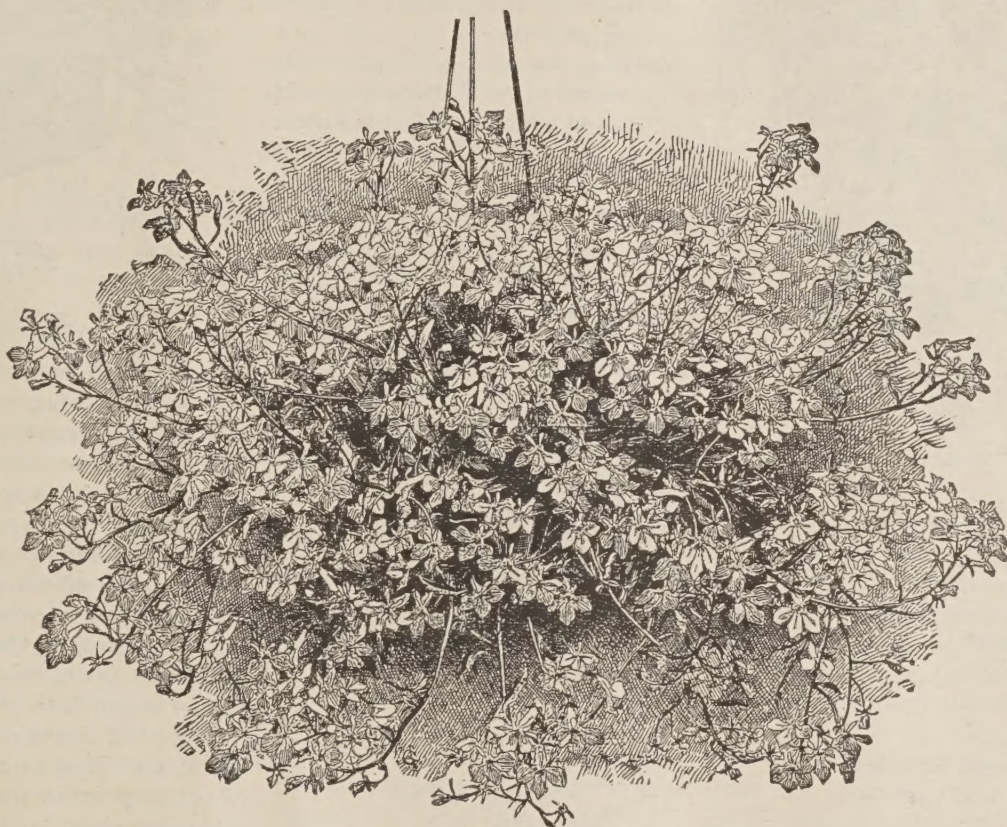
Our illustrations give good examples of lobelia and sweet alyssum and *Oxalis floribunda* used singly for baskets.

An example is given of *Othonna crassifolia* growing in a gourd. This plant grown in a basket falls so directly downwards that the effect is not quite desirable, and the presence of an erect plant is needed to relieve

the apparent weakness.

A handsome hanging basket can be produced sooner by the use of a variety of suitable plants than a single one, and usually from six to a dozen different kinds are employed, care being taken to plant enough trailing kinds about the edge to promptly produce a graceful appearance, while erect kinds, or those with particularly handsome foliage, occupy the center, and delicate climbers are provided to twine about the supporting chains.

The dominant expression of a good hanging basket should be gracefulness, and with this idea in mind a selection of plants will be made which when grown will best express it. Drooping or trailing plants to fall over the sides, and twining plants with light, handsome foliage to run on the cords or chains, are most appropriate. But, besides, there are other plants having light, airy foliage and which branch freely, sending out numerous fine stems that are excellent for the purpose;



BASKET OF LOBELIA.

loam, and one each of leaf-mold, sand and well-rotted manure. This should be prepared the summer before, or at least the different substances should be secured, and loam and sod and leaf-mold mixed together and left in a pile where they will undergo some change, sod and leaves decaying and all becoming intimately intermixed; sand and manure can be added before using.

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The principal plants employed for hanging baskets are named in the following lists. The first list is composed of those kinds which may be raised from seeds, although the most of them may also be propagated by cuttings. The plants named in the second list are usually raised from cuttings, and are supplied in the spring, of small size suitable for bask-

ets, pots and vases, and for planting in borders or beds.

PLANTS WHICH MAY BE RAISED FROM SEEDS.

Ageratum Mexicanum, Swanley blue.

Alonsoa linifolia; *A. Warscewiczii*.

Alyssum, sweet.

Cobaea scandens. Sometimes used in baskets but more advisable for a trellis or a large vase.



FUCHSIA, TRAILING QUEEN.

Fenzlia dianthiflora.

Lobelia gracilis, and varieties.

Maurandya Barclayana, and varieties.

This is a very graceful plant, climbing by twining, bearing handsome flowers; one of the most valuable for the chains of hanging baskets, or for twining about the handle of a rustic basket.

Mimulus hybridus, and varieties.

Myosotis Alpestris, and varieties.

Myosotis Azorica.

Nierembergia gracilis; *N. frutescens*.

Nolana atriplicifolia.

Petunia, all of the best varieties.

Sanvitalia procumbens.

Schizanthus pinnatus; *S. retusus*.

Thunbergia alata, and varieties.

Torenia Fournieri; *T. Bailloni*.

Tropæolum majus, of many varieties.

PLANTS USUALLY RAISED FROM CUTTINGS, BULBS, OR DIVISION.

Abutilon megapotamicum.

Anthericum vittatum variegatum.

Begonia, all of the fibrous-rooted and best blooming kinds.

Coleus.

Cuphea platycentra.

Fuchsia, all varieties, but especially Trailing Queen.

Geranium, all the best varieties, and especially the ivy-leaved varieties.

Grevillea robusta. This may be used as a center plant.

Heliotrope, all good varieties.

Ivy, English.

Lantana. The varieties of this plant may be used in large baskets, though better adapted to a large vase.

Mimulus moschatus.

Oenothera rosea, or Mexican Primrose.

Othonna crassifolia.

Oxalis floribunda rosea and *alba*.

Pilea serpyllifolia, or Artillery Plant:

Rivina humilis.

Saxifraga sarmentosa or Beefsteak

Geranium, Mother of Thou-

sands, Aaron's Beard, Creeping

Sailor, Old Man's Beard, Wan-

dering Jew, etc.

Senecis nikanoides or German ivy or parlor ivy.

Tropæolum majus.

Vinca major, and *V. major variegata*.

Waldsteinia fragarioides or Barren Strawberry.

Zebrina pendula, or *Tradescantia zebrina*, or *T. tricolor*, under all of which names it is known.

When placing plants in a basket they should be set as firmly as possible, and a greater number can be grown in this way and in vases in a small space than is otherwise possible, for the reason that they are wholly under control; they can be watched and petted, and watered and supplied with liquid fertilizer if needed, and all other wants can be easily supplied. After a basket is filled it should be watered from a fine-rosed can and be set or hung in the shade in a close place for a few days, and later can be hung in a half-shaded place under a porch. After this the one thing to which attention must be given unfailingly



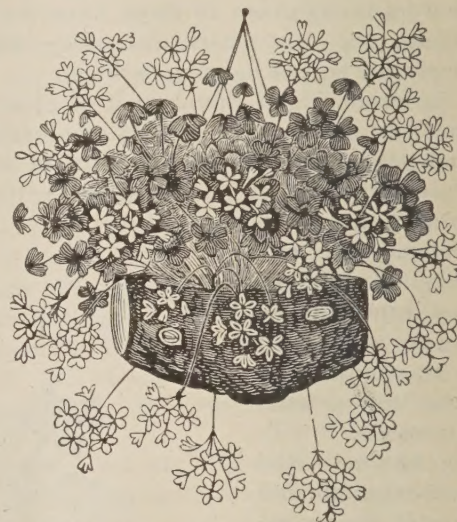
OTHONNA CRASSIFOLIA.

is a daily supply of water. It may be once or twice a day or oftener according to situation, and it must be given freely enough to wet the soil all through, and this will best be known when it is seen to begin to drip. If a basket is neglected and allowed to go dry a few times its beauty will quickly fade and after-efforts may be unavailing to fully restore it.

The greatest neglect that hanging baskets and vases of plants and window and veranda boxes can suffer is want of water, and this is the cause of nearly all the failures with them.

THE DORONICUMS.

THE several species of *doronicum*, or Leopard's Bane, form a small group of hardy perennial plants belonging to the natural order *Compositæ*. They are showy herbaceous perennials, forming



OXALIS FLORIBUNDA.

sturdy, bushy plants which give a wealth of bloom during the early spring and summer months, and of a color which at that season of the year is very hard to obtain. They are natives of northern Europe, are perfectly hardy in this latitude, and when properly grown and cared for are most effective border plants.

The plants require but little care and attention to grow them. They should be given an open, sunny situation, sufficient space in which to properly develop themselves, and during the winter months a good mulching of coarse littery manure. Another point in their favor is their great value for blooming inside during the winter season. For this purpose the plants should be lifted in the fall, potted and brought inside on the approach of cold weather, where they can be placed in a cool cellar; when it is desirable to start them into growth and bloom they should be given the light, and an average temperature of 55 degrees, with water as required. After they have ceased blooming they can be placed in a cool cellar, or underneath the greenhouse stage, and sparingly watered until the weather becomes warm and settled, when they can be planted outside. In preparing plants for winter blooming they should be given a compost of two-thirds turfy loam and one-third well decayed manure. The *doronicums* can be readily increased by a division of the older plants, the operation being performed as early in the spring as possible, or just before the plants start into growth. Of the several species and varieties the following are the most distinct:

D. AUSTRIACUM. This species grows about eighteen inches in height, and is a very effective spring flowering perennial with bright golden yellow flowers. It increases rapidly, grows well in any soil and situation, and well deserves more attention than it at present receives.

D. CAUCASICUM. Grows about one foot in height. Blooms during the months of May and June. It has handsome glossy green foliage and showy branched heads of bright yellow flowers.

D. PLANTAGINEUM EXCELSUM. This variety is of robust growth, attaining a height of about four feet, and blooms during the months of May and June, the flowers being of a golden yellow color, and produced in heads about four inches across. It can be easily forced into bloom, is fond of plenty of moisture, and does well in a stiff soil. When well grown it is one of the finest of hardy plants.

CHAS. E. PARNELL.

Floral Park, N. Y.

ROSE CULTURE.

Continued from page 126.

Planting.—We will suppose that all possible preparation has been made and will now pass on to planting. I notice the trade recommend one precaution in respect of this when roses arrive, which is too often neglected, and that is, immediately after unpacking giving both roots and branches a thoroughly good sprinkling with water. One can never be quite sure how long they have been on the road, or what they may have undergone of drying up at time of digging. It will be necessary also to protect against cold winds,—the roots never can prosper if they get shriveled before planting. Roses on Manetti stock, as all know, should be planted rather deeper than those on the Briar; the point of junction in this case is entirely buried. Standards are better planted rather shallowly, but ought to be staked at once, and trodden round very carefully. I prefer iron stakes to wooden; they cost very little more, and last ten times as long.

Care should be taken after planting to see that all are correctly labelled; zinc labels are best. These should be fastened on with copper wire to little iron spikes placed in front of the plants, or as giving name to a whole row. Roses must never be left going on wearing their own labels, for if the name be lost at showing time it may be a serious matter.

Happily now, since English seedlings have come so much to the front, names have become both more pronounceable and spellable. They are not so dreadfully sentimental, souvenirs of So-and-So, neither so ultra-aristocratic. Dukes and marquises, friends and relations, are now coming into vogue. Last year Mr. George Paul did me the honor to call a rose Alan Cheales. It is not yet in the catalogues, and I must confess to a certain apprehension when that takes place. My friend,

the Rev. H. B. Camm, some years ago found himself depicted as "bright rose, globular, very full." I see one catalogue calls some young lady, a Miss Penelope Mayo, "very full and perfectly round," and another, Emily Laxton, is said to be "prettiest when half open,"—I suppose that means when half awake. Our gracious sovereign lady, Her Majesty, is spoken of by Bennett as "flesh color, petals stout, pleasantly reflexed," whatever that means.

Dean Hole boldly encountered and explained his own synonym, when Mr. Geo. Paul entitled him "of great substance" (like its namesake), "and of a very deep crimson complexion" (such as the original might be supposed to assume after carrying a box of roses up the Crystal Palace stairs, or on hearing some remarks made in disparagement of horticulture).

Time of Planting.—November is by far the best month for this, but, if gone over, roses may be put in at any time during the winter whenever the weather is open, though there will be danger of being quite frozen in, as frost may come on at any moment. In planting Teas I should pre-



HANGING BASKET OF SWEET ALYSSUM.

fer a very moderate manuring, though they like the best of loams and are partial to leaves or leaf mold for rooting into. One old lady, mentioned by Dean Hole, is said to have regularly put her tea leaves to her monthly Chinas, without, however, obtaining the Tea roses she had expected. I would further suggest that the ground be prepared at least a month before planting to give it time to settle down, and every gardener will agree this should not be done in wet weather. There are some soils that you cannot go on at all under such circumstances, and even for the best disposed you are liable to carry away more specimens of the subsoil than is necessary, being reduced to the same conditions with your boots at which somebody or other seems to have arrived when Charles Lamb remarked to him, "Oh! David, David, if dirt were trumps what hands you would hold!"

PROTECTING.

I think roses in general are apt to be too much coddled. I sometimes see great strong standards deeply muffled round the roots with long straw manure, as if in danger of taking cold

through getting wet at their feet; whilst the top, perhaps a tender Tea, has been left without any protection whatever. A moderate amount of frost, say 20° for H. P.s and 10° for Teas, I consider, at the right time, will do healthy plants more good than harm. Beyond that it may be serious, and precautions should be taken. Earthing up, as Mr. Prince, of Oxford, now, alas! lost to us, used to recommend, is the best plan with the Tea class, and with all tender Perpetuals; then, at the worst, the plants can only be killed down level to the ground.

Fern is a good protector tied to the top of standards, or scattered over bush roses; long straw, where it can be used, has the further advantage to some soils when dug in afterwards as manure; but it is almost impossible to provide against frost anything like below zero; then heavy losses will inevitably take place. The case is that of the gentleman whose mercury went quite into the bulb of the thermometer, and he said "If it could have got any lower, he did not know how cold it might have been." As regards Teas in a bed by themselves, it may be as well every winter to have a slight iron framework erected over them, over which mats can be placed at any time, and taken on and off according to the weather.—*Alan Cheales, in Journal of Horticulture.*

TO BE CONTINUED.

THE AGRICULTURAL EXPERIMENT STATIONS.

Nearly forty-five years ago, a company of farmers joined themselves together in the little German village of Moeckern, near the city of Leipsic, and under the influence of the Leipsic University, called a chemist to their aid and (with later help from the government) organized the first agricultural experiment station. Liebig in Germany, Boussingault in France, Lawes and Gilbert in England, and other great pioneers had been blazing the path of progress for years before. A great deal of research bearing upon agriculture had been and is still being carried on in the schools and universities, but the action of these Saxon agriculturists in 1851 marks the beginning of the experiment station proper,—the organization of scientific research and with the aid of government as "a necessary and permanent branch of agricultural business." ** The stations prosecute abstruse researches in the chemical, biological, and botanical laboratory, and carry out more practical experiments in the greenhouse, the garden, the orchard, the farm, the stable, and the dairy. They study the laws that underlie the culture of the soil, the use of fertilizers, the growth of plants, and the nutrition of domestic animals and man. They also study the diseases of plants and animals. They endeavor to learn how the information they obtain may be best applied in practice.—*From "The People's Food—A Great National Inquiry," in June Review of Reviews.*

Letter Box.

In this department we shall be pleased to answer any questions relating to Flowers, Vegetables and Plants, or to publish the experiences of our readers. JAMES VICK.

Eucalyptus.

I wish some information concerning the eucalyptus tree—the manner of its propagation, where it may be obtained, price, etc. MRS. J. P. R. Quigley, Ill.

There is no species of eucalyptus hardy in Illinois. The plants are raised from seeds. Reasoner Bros., of Oneco, Florida, in their late catalogue offer for sale ten species of eucalyptus. Eucalyptus globulus has been much planted in portions of California.

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Otaheite Orange.

In the March number of the Magazine I noticed two letters from people concerning Otaheite orange. For the encouragement of others I write the following: Two years ago this spring I ordered an Otaheite orange. I treated it as I did my other house plants, for soil using two parts leaf mold, two parts rotted manure and one part sand; kept it on a very warm south-east porch during summer and fall, and south bay window in winter. It commenced blooming the first summer, and one orange remained on the tree. The next blooms left nine oranges, and consequently last fall I had one ripe orange and nine green ones. The first one grew to be eight inches in circumference; we picked it and it was a very nice tasting and juicy orange. At present there are four ripe ones and five green ones; the ripe ones measure from four to six inches in circumference. The plant is exactly like the published engraving, only the oranges are larger and more of them. It has been removed from a five to a ten-inch pot once, and last winter I gave it a two-inch mulching of fine manure. It has just ceased blooming and is setting full. I shall report it soon. It is a curiosity and beauty. MRS. P. W. Nichols, N. Y.

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Hydrangea.—Shamrock.

I should like the readers of the Magazine to see my hydrangea, but, as all of them cannot, I will tell them about it. Three or four years ago I got two or three hydrangeas from James Vick's Sons. They have all done well, every year since, but this spring one of them has surpassed the others; it has been in bloom since the third week in April and has now, the first week in June, twenty-two large trusses of bloom of beautiful rose pink color; some trusses are larger, and none smaller, than a soup-bowl. It is just magnificent. If you want something to give lots of pleasure and many flowers, for two months in the early summer, get a healthy, hardy hydrangea. Even after the flowers fade and are cut off the foliage is beautiful until winter. My plants are on a north porch, growing in large tin buckets; they have ordinary good soil and care, and plenty of water.

I should like to tell E. E. E., Pontiac, and whose inquiry appears in the May number, that the real Irish Shamrock is the "white clover," and I beg to say, with all due respect to the editor, that any trifoliate leaf will not do for it. A shamrock is a shamrock, and oxalis won't do for it. K. F.

Richland, Mo.

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Black Flies and Red Spiders.

Will you tell me through the Letter Box the cause of black flies around plants, and the remedy.

What will banish red spiders? My hydrangea was full of buds last year when they appeared; after two sprayings with clear water the blossoms or buds turned brown and dropped off, and with them disappeared the pests. This year it is again in bud and there are a few spiders. I have sponged the leaves some, but do not dare spray. MRS. I. L. B. Victor, N. Y.

In a general way it may be said that a dry air is the cause of insects,—that is, it is favorable to their breeding. The remedy, then, is a moist air, and in the case of red spider frequent spraying of the affected plants with clear water will drive them away. In the January number of this year instructions were given about

destroying the white grubs that are produced by the little black flies. Having destroyed the grubs the plants can be kept free from them by maintaining moisture in the air and by occasional spraying of the plants.

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Cut Worms.

Could you tell me something to do to get rid of cut worms? They are cutting my plants all down, and have nearly destroyed my sweet peas. E. M. S. Fitchburg, Mass.

Numerous complaints have been received this spring about cut worms, with requests for information about the way to destroy them. These inquiries have mostly been answered by letter, but others are still being received, and for these, and for the benefit of all, it may be said, briefly, that cut worms may be best destroyed by supplying them with poisoned food. Small bunches of clover, cabbage leaves or lettuce can be poisoned by dipping them in water containing Paris green and then laying them on the ground near the plants where the worms work. Bran or corn-meal mixed with Paris green,—a quart of the former to a teaspoonful of the latter,—and all moistened with water, can be spread along the rows. These methods are the same as given in this department last month for wire worm, and operate even more effectually in the case of cut worms.

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Packing Roses.—Lady Washington Geranium.

Will you please inform me, through the Magazine, how to pack cut roses so they will stand a trip by mail of three days? I have packed them in several different ways, but in each case they have failed to arrive in good order,—as soon as the box is opened they fall to pieces.

What can I do to make my Lady Washington geranium bloom? It looks well, but it will not bloom. OREGON.

Three days is a long time to keep roses shut up in a box, and it is not strange that they should fall to pieces after such confinement. Nor can we give encouragement that any instructions that may be offered will enable one to pack them to endure three days in the mail. If they could be packed and kept quite cool for that length of time they might come out somewhat fresh, but in sending through the mail for three days they are very likely to be subjected to many alternations of heat and cold. A mail bag may be left to lie in the sun, or be placed in a steamer where it is heated by the boiler, or in other ways be so used as to injure packed flowers. Roses to be packed and sent on such a trip should be cut in the morning before the sun is up. They should be carefully selected from those which have just opened, or are not yet fully open. They should have the stems wrapped in moss a little damp, while the flowers themselves, without sprinkling or receiving any moisture, should be wrapped in oiled paper. All should be enclosed in a thin wooden box, which is then wrapped in firm manilla paper. But after doing the best it will be found that a three days' trip in a mail bag is a trying one for cut flowers. Much more so than for rooted plants.

Disease of Sweet Peas.

Below are published two letters, both in regard to the same trouble with sweet peas, and they explain very accurately the action and effect of a disease which appears here and there throughout the country and always with a fatal result to the diseased plants:

ODESSA, IND., May 28, 1896.

JAMES VICKS SONS:

I purchased some sweet peas from you last spring which I planted the first week in April. They came up all right and were nice and thrifty until they were about four or five inches high, when they began to dry up at the top of the ground and die, until I have only a few left. I would like to know the cause, and remedy if there is any. Please answer through the Magazine, and oblige a FRIEND.

FLORENCE, ALA., May 23, 1896.

JAMES VICKS SONS:

I purchased of you, in early spring, sweet pea seed. I planted according to directions, six inches, in a trench, filling up as fast as they grew; put up a wire trellis twenty-five long and six feet high, running north and south. They are blooming beautifully, but in spite of all I can do they are turning white and dying at the roots. Will you tell me the cause? If they continue to die I shall lose all in a few days. Will you give me full directions about them? Others here have sweet peas which are in the same condition as mine. Ought they not to stay in bloom until cool weather? MRS. L. W. C.

Letters similar to the above were published in this journal in July (page 139) of last year. Together with them we gave a letter from the Rev. W. T. Hutchins, the celebrated sweet pea grower of this country. We have heard of no remedy having been found for the disease since that publication. Mr. Hutchins refers to the disease as a blight or mildew. At the time of writing the letter he was on the eve of departure for England, where he expected to visit Mr. Eckford, of sweet pea fame, and, if possible, to learn something that might be helpful in preventing the disease or limiting its effects. But as yet, we are sorry to say, such treatment has not been discovered, or at least not made known. A portion of the letter of Mr. Hutchins referred to is here republished, showing the manner in which the disease is regarded by the one who has had most experience with it in this country. It is as follows:

My own sweet pea garden of over 1,000 feet, and on which I put constant study and unstinted work, shows the blight this year worse than ever, and the preventive means which I have relied on have largely failed. The cause would seem to be partly in our new strain of improved seed and partly in certain elements lacking in the soil. Light soil is worse than heavy clay loam. Inland seems worse than the sea coast.

I think the *Dakota man has begun to use wash suds too early, and unleached ashes would be too rank for tender vines. I find my own zeal in sweet peas greatly chastened by the formidable difficulties that are rising, but expect to conquer them. The blight is of a similar nature as the mildew; the epidermis of the vine rots and gets slimy above the seed and below ground, while the root remains all right. I think it is going to be very difficult to reach it, but am hoping that something can be applied to the soil to do it. Nothing can be done now, I think, for this year. My experience is that people become over-anxious about it, for as a rule we plant too thickly, and if we lose one-half we still have enough vines for trellis or bushes. I will try to give the subject thorough treatment.

For ourselves, without having any remedy to offer, we will say that we quite distrust the making up of trenches with heavy quantities of manure wherein to sow the peas, and our aim would be to change the site from year to year, each time selecting a place in the garden that had been well enriched for a crop the year before, using no manure directly for the peas,—or at most a dressing over the whole ground, before sowing, of some good commercial fertilizer.

* Referring to a letter of one of our correspondents.

HYDRANGEAS.



THESE plants should be among the indispensables to all flower growers, combining elegant foliage and beautiful flowers with ease of culture and longevity of bloom as do no other plants I have ever seen or heard of. One reads so many complaints of failures and difficulty in bringing the hydrangea into bloom, that it is not to be wondered at if many timid amateurs are deterred from even giving it a trial. Indeed for several years this was so in my own case. It was only upon seeing a handsome specimen in a neighbor's window and admiring its rich, deep shining green foliage, that I ventured to send for two varieties for my own collection. After sending for them, however, my neighbor informed me that her plant was three years old and had never bloomed! After that I had many



HYDRANGEA,

NEW RED BRANCHED.

doubts as to my own success, more than before even, which was quite unnecessary.

In due time Otaksa and the New Red Branched arrived, quite small plants, but healthy and in bud! I had not supposed it possible such young hydrangeas could even be forced into bloom. However, as they had been quite two weeks on their journey, through some mistake, I nipped out the buds and left the plants to grow larger before blooming.

They were potted in quite rich garden soil, and not given nearly as much room, in proportion to their size, as my neighbor had given hers, which was in a large pail. My plants grew thriftily all summer, the Red Branched growing much larger than Otaksa. The former is quite a striking plant in appearance, even without flowers,—the stems or branches being of a blackish crimson, brightening to a light crimson as they approach the flower heads. The flower stems in Otaksa are

a delicate waxy pink and most charming.

Not understanding the habit of this plant I was deeply disappointed when late in the fall the leaves began to curl up, die, and drop off. Fearing I had been keeping them too damp I withheld water, and afterwards discovered that was just the treatment they needed, as they were merely preparing for their season of rest. Florists advise putting them in a cool cellar for five or six weeks and giving only sufficient water to keep them from drying out entirely. Not having a safe cellar for my worn-out plants they were relegated to a back shelf on the flower stand, where no sunshine and but dim light could strike them, and once in two or three weeks, or when the soil about them looked hard and dry, a very little water was given. However, I scarcely ventured to hope that they would ever revive. Judge of my delight, then, when about mid-winter some bright green shoots began to push

up from the earth at the base of the old stem. About this time, too, I read that before the plants began active growth the old branches should be cut down. Mine were at once pruned according to directions, and soon after began to throw out leaves. A little later, curled up tight in the middle of the top leaves on each branch, I discovered a bunch of tiny green buds. Both plants were moved into the light then and given plenty of water. The buds were a long time developing, but the flowers were well worth even a much longer waiting. They were lovely beyond description. Otaksa was not more than six inches tall, but bore

one very large bunch and two smaller ones, of the most exquisite waxy pale pink flowers. The stems were the same color, even the little stems on the individual florets were of a lovely delicate pink. No words can adequately picture the great beauty of the New Red Branched hydrangea,—it quite eclipsed its sweet sister Otaksa. The trusses of bloom were immense, and there were four of them on my small plant, the flowers being of a rich, deep pink. For months these plants kept their exquisite blooms, changing from pink to yellow, and last to a deep pea-green. After they begin to change color they do not seem to require so much water.

As my two lovely plants did not receive any special care and rewarded me so richly, I am convinced their needs are no greater than those of the more common window plants, and I would strongly advise those who have not tried them to

order at least one or two this spring. So much in love with them am I that I ordered another one of each of these varieties last summer. Already three of the plants have burst into beautiful new foliage, and I expect quite a windowful of their exquisite rose pink blooms this season.

MARY FOSTER SNIDER.

THE TIME TO PRUNE TREES.

At the late meeting of the Michigan Horticultural Society the following question was asked and answered:

"Will pear, plum, apple, or cherry be damaged by winter pruning where the limbs are small?"

Prof. Slayton—Yes, sir. Experiments show that any pruning done between November and the first of April, on any of the seed-fruit trees, is an injury. January and December are the worst months. You can see samples in the Farmers' Club room at Grand Rapids, where the bark is killed a quarter of an inch or more in pruning done in January. In March, not so far,—about an eighth of an inch; pruning done in April healed slowly; in May, very well, and in June and October best of all. It healed pretty fairly in July, and some very well in August, a little in September, and the October healing was very good, but not quite so good as the June pruning. The December limbs that were cut died absolutely. The January pruning was the next worse, in being killed around the cut.

Mr. Rice—I pruned large shade trees in December and had bad results. They were Carolina poplar, which is one of the hardiest trees in the world.

PRIVET HEDGE.—A full-grown hedge of the so-called California privet, *Ligustrum ovalifolium*, appeared this spring to be much injured by the severe weather of the past winter. It put out its buds very tardily and the wood at the extreme top of the hedge was dead. It was evident on examination that the vitality of the wood had been weakened by the hard pruning of the previous summer. The art of hedge pruning is little understood by men who go about attending to gardens. A hedge of this privet well cared for and properly pruned would no doubt be quite hardy here at all times.

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ROCHESTER, N. Y., JULY, 1896.

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Death of a Noted Horticulturist.

One of the best known horticulturists of this country passed away on the 4th of May last, when Andrew S. Fuller, of Ridgewood, N. J., died at his home after a short illness. Mr. Fuller was sixty-eight years of age. He was born in this State, brought up to country life; before his majority he went with his father to live in Milwaukee and remained there a few years, afterwards returning to this State and engaging with William Prince, of Flushing, who at that time was the best known nurseryman of the country. He originated some new varieties of fruits, and commenced to write for the *American Agriculturist*, the *Weekly Tribune*, and other publications. He was editor of the *New York Weekly Sun* for twenty-six years, and became well known as the author of several books on small fruit culture, grape culture, forestry, etc. For some thirty years past he resided at Ridgewood, N. J., giving attention to horticulture in an experimental way and making an extensive collection of insects, and taking high rank as an entomologist. His writings have always been regarded as high authority, and in his death at this time we recognize the loss to the horticultural community of one of its most valuable fellow-helpers.

Castor Oil for the Calla.

In the communication in the present number entitled "Plant Notes," by D. L., the use of castor oil on callas is noticed. As this treatment is little known, some inquiry into it has revealed the fact that in one locality in Wayne County, in this State, it has already become common.

The people there give a plant about a tablespoonful of the oil a month during the growing and blooming season. It is applied to the stock or stem, just above the surface of the ground. It is claimed that the plant blooms more freely and that the leaves are larger, of a deeper green and more glossy. When the blooming period is passed the oil is no longer used and the plant is gradually dried off, and at last the pot is laid on its side and the tubers allowed to go dry until early in autumn. After repotting for starting again an application of the oil is made.

The Spring of 1896.

The conditions of the weather the past spring have been varied and in some regions phenomenal. Most of the Eastern and Middle States have suffered greatly from drought, so much as to hinder and delay planting, and to injure early crops. Later in May the showers came, and have continued timely through June. But a sad and terrible feature presented itself from the early until the latter part of May, during which time the vast territory from Texas to Indiana and Michigan, including nearly every State in the Mississippi Valley was visited by tornadoes at different points, in all cases doing much damage and usually killing and wounding more or less of the inhabitants. The loss of human life was large in Texas, Indiana, Iowa and Michigan, while the destruction of dwellings and domestic animals and property of all kinds was immense.

One after another came the news of these disasters, and finally the series culminated in the great tornado of St. Louis and East St. Louis, on the 27th of May, when over 400 persons were killed and more than 1,500 were more or less seriously injured, and property estimated at \$20,000,000 was destroyed. The loss of property in this manner during the month in the region named is considered to be at least \$50,000,000. The details of these terrific storms have all been published and our readers are acquainted with them. The record is here made as weather incidents of 1896.

Missouri Botanic Garden.

It is reported that the tornado in May, at St. Louis, did immense damage to the beautiful grounds of the Botanic Garden, breaking down and uprooting many of the rare old trees that can never be replaced, as well as stripping it of a great amount of younger trees and shrubs and laying waste a large area. This is a most serious loss not only to St. Louis, but to the country at large, for the Missouri Botanic Garden is now an important institution for horticultural instruction. It may be unnecessary to say that the injury will be repaired to such extent as it can be, and that the place will continue as heretofore a training ground for young

men in all gardening pursuits and investigations. By the kindness of the director, Mr. William Trelease, we have been presented with a copy of the "Seventh Annual Report" of the Garden. It is a handsome octavo volume of over one hundred pages, besides seventy-two full page halftone plates. The scientific papers are Juglandaceæ of the United States, by Wm. Trelease; A Study of the Agaves of the United States, by A. Isabel Mulford; The Ligulate Wolffias of the United States, by Charles Henry Thompson. There is also a list of the titles of the works contained in the Prelinnean library which was presented to the Garden by Dr. Louis Sturtevant. The volume is a grand testimony to the usefulness of the Garden, though not needed as such for those acquainted with the excellent institution.

The Yearbook of 1895.

The report of the Secretary of Agriculture, since and including 1894, is issued in two parts,—the first part, of only a comparatively small number of copies, for the use of the department and for the Senate and the House of Representatives; the other part of "Such reports from the different bureaus and divisions, and such papers prepared by their special agents, accompanied by suitable illustrations, as shall, in the opinion of the Secretary, be specially suited to interest and instruct the farmers of the country." Of this part 400,000 copies are issued, and its title is the "Yearbook of the United States Department of Agriculture." Under this arrangement the yearly volume has become very attractive. The volume for 1894 was a very valuable one. The volume for 1895, which has lately been issued, is filled with able and instructive articles, well illustrated, written by some of the best talent engaged in the interests of horticultural and farming pursuits. It is impossible to give here a synopsis of the volume for 1895, but it may suffice to say that every intelligent gardener, fruit-grower and farmer will find in it much valuable information relating to his special work. We advise all who can to secure these interesting yearly volumes, through their representatives in Congress, and read and study them, and preserve them in their libraries.

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THE REASON WHY.



IF there was only time to attend to them, it would be very pleasant to grow some flowers, but I am altogether too busy to plant and weed and cultivate them, so they will have to go," said the feminine grumbler. "Now if I only had as much time as you," etc., etc., never thinking the time spent gossiping, even that once, would put in order enough of a garden to furnish bouquets for many a day. In regard to those devoted flower lovers without any time, who spend day after day "shopping" to match a ribbon, or keep up to date in the color and shape of their hats, it never seems to me worth while to pour out much sympathy over their woes or aspirations, for I am firmly persuaded that these are mostly in the region of romance instead of reality. In fact I like better the frankness of a little girl who came one day for some flowers, saying her mother was going to have company and wanted them for the table. Knowing they had a large garden I ventured to ask why they never had any of their own. She replied that "her mother said she didn't want to tan all up, or to work in the dirt either." I gladly sent the flowers for the sake of the revelation, but since then have taken the "no time" excuse with a good deal of mental reservation.

For the busy woman there are plenty of the hardy perennials that will give a succession of flowers all summer, without much outlay of labor when once established. They are easier to grow than annuals and are sure to bloom.

What can be daintier or sweeter than a bed of lily of the valley? Yet it will grow in some shady place or out-of-the-way corner which might be hard to utilize for anything else. I know one such bed under an apple tree, extending from the trunk to the circumference of the branches. In the spring when the lilies monopolize the ground, no one wants to disturb the tree; in the fall when the apples are ripe the lilies have ripened off and do not mind being trod upon when the fruit is gathered.

The iris thrives and increases without any special care, yet it is one of the most decorative flowers in the whole garden. Its range of colors is wide, and comprises blue, white, cream color, yellow, deep plum, the daintiest lavender, and many others, so one can have a wide choice in selecting for any special occasion,—yet all are beautiful. The plants are partial to a moist, shady place, yet will accommodate themselves to almost any location. Set them where they can grow undisturbed and you will be sure of something choice, even if you are one of those unfortunates who have "no time." The clumps increase rapidly every year, and it is a good plan to divide them occasionally to keep

the roots fresh and to prevent their forming too solid a mat.

Does it really take much time to grow a clump of pæonies? Once planted in a well prepared soil, they make few demands upon their owner, yet they are beautiful enough and showy enough to satisfy the most fastidious. Ranging in color from creamy white to the deepest pink, and down to the dark crimson "piny" of our grandmother's dooryard, they offer great possibilities for artistic effect in arrangement. Half a dozen cut with long stems and a little of their own foliage make a good showing in a clear glass rose bowl, which permits the stems to be seen clearly. It is a mistake to tie them in bunches, they arrange themselves so much better without.

Perennial larkspurs are no trouble when once established, though they are somewhat difficult to transplant. I remember several ineffectual efforts to remove part of a clump of intense blue ones that I coveted, but every effort resulted in failure until I found some small seedlings under the parent plant and brought them home. They never minded the change and soon formed masses of the brightest blue imaginable. The bee larkspur is more of a purple, and the brown center resembles a honey bee, which I suppose gives it its name. There are lovely grayish-blues and delicate light shades that give variety, and good blue flowers are scarce enough to be well appreciated. The long spikes of bright blue, interspersed with the softer shades, make a mass of color restful to the eye, and therefore pleasant to see.

Blooming at the same time and harmonizing well with the larkspur is the *Coreopsis lanceolata*. It is perfectly hardy and its yellow flowers on long, slender stems, look like floating stars. They are fine for cutting, and give much pleasure for the little trouble they make. Like many others, if cut closely their flowering season is prolonged for months, so it pays to be generous. The plants are easily grown from seed, but will live and increase for years.

Another graceful, pretty plant is the *Dicentra spectabilis*. Its long chains of pendulous heart-shaped flowers, shading from pink to crimson are dear from association as well as for their intrinsic beauty. Its mass of pretty foliage is an addition to the border long after its flowers are gone, and it is so hardy there is no reasonable excuse why its beauty may not be enjoyed by all. It was one of the "stand-bys" of the old-fashioned garden and under the fanciful name of Bleeding Heart was a great favorite.

These are only a few of the hardy plants that can be grown by the busy woman if she only cares enough for them to set them out. I am glad if even one person is induced to try a few of these hardy border plants, and at some future time I

may take up the subject and mention many more that I have tried and found true, with even the severity of a Vermont winter to contend with. I am satisfied that there are but few, if they really care for flowers, who may not find time to cultivate some of these hardy perennials.

SARAH A. GIBBS.

THE WINTER WINDOW-GARDEN.

IT is not well to wait until the leaves begin to show autumnal hues before making preparations for the winter window-garden. It is said "There is no time like the present time," and this is just as true in regard to flower growing as in other things.

If you want geraniums for winter blooming it will be well to get them started in June if possible; the waiting until August is a little risky unless you are particularly successful in growing plants and can get a good growth before cold weather sets in. There is little use in expecting a small slip to produce as many flowers as a plant of larger growth,—a two-year-old geranium is quite apt to give more and better blooms than one of three months, I think,—but then we all have notions, and you can't by any hocus pocus get a geranium to make a two years' growth before the next snow fly that ushers in another winter.

There are many other plants that give quite as good satisfaction as the geranium, spindling, scraggly looking thing that the average one is. If you must have geraniums, then do try to grow them into some sort of symmetry, so they will suggest something besides a sickly, consumptive specimen of plant life. In the first place select slips from healthy plants, and it is well to cut these as near the root as possible. Then when a good stout growth has begun, pinch out the top, if necessary, to make branches, and keep up the pinching until a plant of good shape and numerous branches results. The more branches the more flowers.

If you have any plants that are not satisfactory, why not bed them out this summer, and then if not needed for the winter, simply put them in the cellar. This clinging to plants just simply because they are plants, and with no redeeming qualities at all as far as beauty or floriferousness is concerned, is a fallacy that too many plant growers are wedded to.

My plants met with a very sad fate on Christmas night, when they were left to the tender (?) mercies of hired help. They were shut up in a room without a fire and were left there for two days and a night, and of course the result was inevitable. They were ruined, and I am to start a new collection and mean to have it a good one.

I am more and more impressed with the value of the abutilon as a window plant; it grows quickly and blooms profusely,—some varieties of it. The Infanta

Eulalia is a pink variety and it has the most exquisitely colored flowers, amidst its fresh green leaves, that you can imagine. It is almost always in blossom, and with judicious pinching out makes a handsome plant and is very attractive. Then comes grandiflora; this has the clearest, purest yellow flowers I have ever seen on an abutilon, and it begins blooming when only a few inches high and keeps it up indefinitely. These two abutilons will figure in my next winter window-garden. There will also be the Abutilon Souvenir de Bonn, which is a handsome plant even with no blossoms; it has beautifully shaped leaves, deeply and unevenly margined with white. Abutilon New Double is a lovely thing, but a plant with which I do not succeed, as far as blossoms go. If it only would bloom freely it would be a valuable plant indeed. Its leaves are mottled with yellow and its blossoms are of yellow or orange, shot with crimson, a very striking combination of colors, and very handsome, too.

I mean to have an Otaheite orange, with its rich waxen leaves and flowers of intoxicating fragrance.

An Olea fragrans, too, is down in my mind, and this, too, is a flower of wonderful sweetness.

I want to add to my oleanders and get several different varieties. These plants grow quite rapidly and I think one I have came into bloom the first year, or when perhaps a little more than a year old. It still stands in a six-inch pot and measures about four feet in height. A friend, seeing it in bloom, exclaimed, "Why, I had an oleander for years and it grew to be a tree and never blossomed!" but I remember her plant stood in a tub, and I believe it had too much root room to bloom early. It seems curious, but a great many plants will blossom all the better for crowded quarters.

Then I like graceful, airy plants, like *Asparagus tenuissimus* and the Parrot's Feather. The asparagus mentioned is a most beautiful plant; it has a fine, feathery foliage, not unlike the garden asparagus, only it is finer and more delicate, and it sends up long vine-like branches that are very handsome. It is about the easiest plant to grow I have ever had; mine stood the general freeze at Christmas time and was not killed at the roots; I cut back all the foliage and it is now growing as though nothing had ever happened to it.

The parrot's feather is a hanging plant, or a plant suited for a hanging basket or a bracket. It grows well in water in which has been placed some moss and a little sand at the bottom; a few bits of charcoal will aid in keeping the water sweet. It is a most vigorous grower, and is something not often seen in the ordinary collection. The plant is almost proof against bad management; it seems to possess a wonderful vitality, and the red

spider may chew it to the earth, but like truth "crushed to earth" it will rise again and grow on in graceful greenness until something else happens again to crush its beauty and brightness. I have never had a plant with the history of my parrot's feather,—about everything that can happen to a plant has happened to this, and still it lives and flourishes in spite of all adversities. Try a plant or two of parrot's feather, even if you haven't been successful with other plants.

There are glass globes with chains that make particularly "fetching" receptacles for aquatic plants, and I'd rather have one of these with a riotous parrot's feather growing in it in my window-garden than a whole shelf full of spindling geraniums and sickly fuchsias,—though *Fuchsia speciosa* is a good winter bloomer, and is, therefore, particularly good to have, as it



LILIUM HARRISH—EASTER LILY.

is in the winter time that we most care for flowers indoors.

Odd plants are my hobby, and I like the curious gasterias, with their thick, oddly marked leaves, which look like spikes, and their unique manner of growth is unlike most anything else in the plant line, but these curious plants deserve a chapter to themselves. I meant to say when talking about parrot's feather that if you can't afford a glass globe for it, you can get a cocoanut shell and crotchet for it a cover of gold-colored whip cord twist; this gives quite a festive air and the gold looks very pretty shining through the whorls of green feathers. Some take a broken glass dish and make such a cover for it and use it in the same way, but Hamburg or Victoria knitting silk would be better to use for the crotchet cover, as it is stronger than the whip cord twist.

The Rex begonias are always lovely

and their leaves are prettier than many flowers. If one once gets a plant of this class of begonias growing it is safe to say that it can be kept, but it seems a little difficult to get one of them well started. Don't ever make the mistake of trying to divide the roots,—this, in my experience, causes sure death. The plants may be propagated by leaf cuttings.

ROSE SEELYE-MILLER.

* * *

FORCING EASTER LILIES.

THERE is much complaint among amateurs about Easter lilies failing to bloom when forced in an ordinary window. While I do not say it can be as successfully forced, by an amateur, as can the hyacinth or narcissus, yet I do not believe there is any difficulty which cannot be overcome by proper care and attention to the needs of the bulb.

One must not expect perfect success every time, but I seldom have a failure, and when I do it usually comes about this way: It occasionally happens that a bulb is a bit cranky and utterly refuses to start, though every known way is used to coax it to grow; then the only way to do is to put it down cellar and let it sulk until spring, when it will be found growing a little and will do nicely when planted in the ground.

For forcing I always use the Bermuda Easter lily, as it has larger flowers, and blossoms two or three weeks earlier than *Candidum* or *Madonna* lily. Much depends on the soil, planting and watering of the plants.

Usually, people do not plant lilies deep enough; to be sure, in a pot one cannot plant them as deep as in the open ground, but they must have a certain depth to do well. As the roots, which do so much to balance the stalk as well as nourish the bulb, grow above the bulb, it will be readily seen that the bulb must have several inches of soil over it to ensure success.

Plant the bulbs in the fall just as soon as they can be obtained, as the longer they remain dry the less likelihood of blossoms. That is the reason the imported lilies are so carefully packed, each being wrapped separately in some material which will exclude air and heat. The *Auratum* lilies, imported from Japan, have a hard coating of clay which keeps them fresh, while some other sorts are placed in damp sawdust or moss.

For a Bermuda Easter lily use a six or eight-inch pot and put plenty of broken pottery in the bottom to insure perfect drainage. On this place three inches of rich garden soil,—no stable manure unless it is well rotted and mixed with the soil; it has a tendency to rot lily bulbs and must be used with caution, the better way is to do without it entirely, using leaf mold in its place. Place the bulb in the pot, cover with soil and set away in a cool, dark place to form roots. In five

or six weeks it will be well rooted and can be brought to the light; then as fast as the stalk grows, fill up with soil until the pot is nearly full. Planted in this way no stakes are needed and the plant will grow strong and healthy and will reward you in a few weeks with a bunch of beautiful lilies,—emblems of purity.

The lilies need plenty of sunshine, but they do well without a great degree of artificial heat. They must be watered carefully; they delight in a moist soil, but do not enjoy being deluged. If not kept too hot and dry, insects will not disturb them, but should these appear a daily syringing with water will soon rout them. Mine are sprayed almost every day and so far I have not seen an insect of any kind on them this year.

These bulbs can often be made to flower the second time the same season without repotting, though a second crop of flowers need not be looked for except from the best bulbs. After flowering in spring gradually diminish the supply of water until the stalk dies, when it can be removed. Then only water the soil once in two weeks, or just often enough to keep the bulb from drying out too much. This treatment is continued until a new stalk appears, when plenty of water is given the plant. A liberal top dressing of leaf mold and mulching will help it at this time and a fine stalk of lilies reward the labor. Lilies, lovely at any time, seem more so when so completely out of season as they are in early fall. Z.

* *

DISEASED FOWLS.

A European scientist who has been making a careful and extensive investigation of the diseases of domestic fowls has reported to a learned society in Belgium that one of the ailments to which these birds are subject is liable to give diphtheria to human beings. The disease appears as a catarrhal affection and is both contagious and malignant. Affected birds should be killed and buried as soon as the disease appears. The well birds should be immediately removed to other quarters and the houses, coops, and everything with which the sick birds have come in contact should be thoroughly disinfected. Except where fancy stock is kept, these rules will apply in all violent outbreaks of catarrh or kindred diseases among hens. By care, skill, and proper medication, a few birds might be saved, but the cost would be all out of proportion to their value. Then, too, in handling hens, or any animals that are suffering from malignant diseases, there is some degree of danger to the one who cares for them. This fact should be more fully realized than it appears to be by farmers and their families. The subject has two lessons: One is so to feed and care for the animals as to prevent sickness as far as possible. The other is to be very cautious in handling any creature that is sick with a malignant disease.—*Practical Farmer.*

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Gustave Piganeau

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La France

Silvery rose changing to pink; a constant bloomer; beautiful in bud and flower.

Magna Charta

Pink, suffused with rose; large, full.

Mrs. John Laing

Delicate pink; large, fine form; fragrant.

Paul Neyron

A grand rose, with immense double flowers, probably the largest grown; bright shining pink, clear and beautiful; finely scented.

Prince Camille de Rohan

Rich, dark velvety crimson, shading to maroon; very double and sweet.

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ROSES IN HISTORY, ROMANCE AND MYTHOLOGY.

TO all lovers of the Queen of Flowers these few curious facts that I have compiled may be interesting. In early history roses were a potent ingredient in "love philters," and have, from time immemorial, found a place in the healing arts, as well as in the pages of history and romance, and among the legends of poetry. The Greeks, Romans, and ancient Gauls employed roses as one of several remedies for people who had drunk more wine than was good for them. In Capua they were administered to those who had overeaten. Some recommended roses for pleurisy; one ancient authority said that when a syrup of roses was mixed with honey it would lengthen life. Rose leaves, properly prepared and used, have been said to be a perfect cure for hydrophobia. A liquor made of, or flavored with, roses was the favorite beverage of Philip the Handsome, of France; while Charlemagne considered this same preparation a specific against loss of blood in battle. A poultice of roses, in "ye olden time," was used for flesh-wounds, and roses and buds, preserved with sugar, were believed to cure consumption and all affections of the throat and lungs.

These beautiful flowers have, in all ages, been the favorites for adorning the bodies and graves of the dead. Mark Antony begged Cleopatra to cover his tomb with these flowers of love; and the graves of Abelard and Eloise, in the Parisian cemetery of Pere la Chaise, are always covered with bouquets of roses, the offerings of tourists and visitors to the tomb of these unfortunate lovers. In Turkey a rose is often sculptured over the graves of unmarried women; while with us we often see a rosebud with a broken stem cut into the marble above the last resting place of a little child.

In Babylon a preparation of shoe-leather was much esteemed when it had been impregnated with the scent of the rose. Abdulkari, a learned and eminent Turk, hearing of this, bethought himself of an ingenious way to profit by it. He had demanded of the Babylonians the freedom of the city, and in reply they had sent him a bowl brimful of water, which was meant to signify that there was no room for an intruder. Abdulkari placed a rose-leaf upon the surface of the water without spilling a drop of it; and having thus indicated in the same symbolical manner that he might be received without giving trouble or disturbance, he obtained his object.

In many countries the Jews still celebrate the Festival of Flowers, when they ornament their lamps, chandeliers and beds with roses. The early Christians disliked these flowers and said they could not understand how pious people could find pleasure in roses, when they remem-

bered Christ's crown of thorns. But this feeling has long since died out.

It has been the practice in Rome for the pope to bless the rose on a special day called Rose Sunday. This custom of blessing the rose seems to have begun in the eleventh or twelfth centuries. The benediction was given with peculiar solemnity and on the fourth Sunday in Lent. The rose was made of gold, for the purpose; after the ceremony this consecrated golden rose was presented by the pontiff himself, to some prince or princess, as a mark of special favor.

In the east there is a tradition that the first rose was formed from a tear of Mahomet. The Guebers, or Fire-worshippers of Persia, believe that Abraham was thrown into a fire by the order of Nimrod and that immediately the flames were turned into a bed of roses.

Many may be familiar with the pretty little story of St. Elizabeth of Hungary, who would generously feed crowds of her hungry vassals with loaves of bread at her castle gate. Her stingy, cross, old tyrant of a husband came upon her suddenly, as she was about to begin her daily labor of benevolence, and asked her what it was she had in her apron; with a prayer to the Lord of miracles that her reply might be made true, she answered him, "Only roses," and boldly opened her apron, when it was seen to be filled with the most beautiful roses, instead of loaves of bread.

There is a pretty little legend to the effect that all the roses that were created at first were white, but as Eve was leaving the Garden of Eden she let a tear drop on a rose, which changed its color to red.

The city of Rhodes is said to owe its name to the great number of roses it produced. The perfume of the rose is accounted for, in mythology, from the statement that Cupid, the god of love, at a feast of the gods on Mt. Olympus, in the midst of a lively dance, overtipped with his wing a cup of nectar, which falling on a rose gave it its peculiar odor.

Mythology states that a rose was given to Harpocrates, the god of silence, to induce him to conceal the amours of his mother, Venus; hence originated the term "sub rosa," as a rose was hung up at a place as a caution that nothing was to be reported which was said there.

Among the species best known to the ancients was the hundred-leaved rose (centifolia), excelled by no other variety in beauty and fragrance. It is a native of the countries adjacent to the Caucasus mountains, where it has been cultivated from the earliest times. The musk rose, a native of Africa and southern Spain, has been cultivated in England since the sixteenth century.

The rose of heraldry is always drawn in a conventional form, never with the stem or stalk. The rose-gules was the

badge of the Plantagenets, the rose-argent that of the Yorks. The York rose was sometimes surrounded with sun-rays, and termed *rose-en-soliel*. The red and white roses will ever be memorable in history as being the badges of the rival houses of Lancaster and York, in the terrible Wars of the Roses. The English people, for centuries after, carried their partisanship to ridiculous extent. I have heard my mother say that her grandmother, who was a Nevil and a lineal descendant of the grand old "king-maker," would not allow a red rose to be cultivated in her fine old garden at Charleston, S. C., she being a staunch Yorkist.

I will close with a little verse said to have been sent by a Yorkist lover to his Lancastrian mistress, with the gift of a white rose:

If this fair rose offend thy sight,
Placed in thy bosom bare,
'Twill blush to find itself less white,
And turn Lancastrian there.
But if thy ruby lips it spy,
As kiss it thou mayst deign,
With envy pale 'twill lose its dye
And Yorkish turn again.

LISETTE CLAYTON HOOD.

* *

PLANT NOTES.

WINTER BLOOM.—Don't let your geraniums bloom all summer and then expect them to do the same all winter. Keep geraniums for winter blooming in a semi-starved condition all summer by giving just water enough to keep alive and no fertilizers. If in very small pots change to a size larger in September, using rich soil. After this give all the water they want, and occasionally through the winter a little plant food. Give a sunny situation, and if the buds were picked off through the summer they ought to bloom freely through the winter.

CASTOR OIL.—Last year I came into possession of a calla which had not bloomed for eight years, previous to which time it had bloomed abundantly. I had read and heard of the castor oil treatment and thought I would try it; but on looking for castor oil found I had none, so I tried sweet oil instead, using about two ounces. I scraped the earth away from the stalks and poured the oil directly on the bulbs. I used very warm water to water with, and two weeks later I applied about two tablespoonsful of melted lard. In less than a month from the first application I counted five well developed buds.

KEROSENE EMULSION.—One-half pound of whale oil soap, one quart of water, and two quarts of kerosene. Heat the soap and water till the soap is thoroughly dissolved, then add while boiling hot to the kerosene. Don't put the kerosene into the soap and water over the fire, but take the hot mixture from the stove and pour into the kerosene. Churn all together until perfectly mixed; it should form a cream when cool, which will mix without separating in water. To use it, add one part emulsion to nine parts of water.

RED SPIDER.—In case of red spider an ounce of prevention is worth many pounds of cure. The red spider abhors water,—therefore to prevent his work keep plants in a moist atmosphere, and sprinkle and syringe the foliage often,—being sure to wet the under side of the leaves and stems. The red spider is a mite, and such a tiny mite that the aid of a magnifying glass is often necessary to discover him. Sometimes the first knowledge one has of his presence is a dry and burnt appearance of the foliage; then if the plant is examined tiny webs will be discovered and a good pair of eyes may find the spiders themselves. Then, if you would save your plants, a vigorous war must be begun and maintained until the last spider is dead. Begin by clearing all rubbish and dead leaves away from the pots and plants, for they are the favorite haunt of the red spider; burn all such material collected. Then try syringing with kerosene emulsion, followed by frequent syringings with clear water. Bowls filled with hot water and set among the plants will help to keep the air moist. Very badly affected plants would be better cut back, or at least stripped of the greater part of their foliage. D. L.

* *

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FOR A DRY SEASON.



AS dry summers seem to be the rule rather than the exception now-a-days, one must learn how to plan the work so that the least possible harm will result from the drouth. Our garden, containing fruits and vegetables as well as flowers, is so situated that it cannot be watered, being too large to carry water for, and there is no other way provided. This being the case, we must find some way of saving the garden, for we cannot do without it. Some things, like berry bushes, shrubs and trees, can be kept nicely by being heavily mulched early in the season; ever-blooming roses, geraniums and other plants in beds can also be benefitted by the liberal use of coarse manure as a mulch, and also for the fertilizer it contains. For some plants this plan will not work, so different arrangements must be made.

It has been known for a long time that frequent cultivation of the soil around plants will keep them in good condition even during the driest weather, and for several seasons we have demonstrated the fact to our own satisfaction and that of our neighbors.

A hand cultivator, or wheel hoe, has been in use in our garden for several years, but as the shovels and other tools that came with it did not do the work satisfactorily, the good man began to experiment on his own account. The result is a small harrow-like attachment with five narrow teeth curved in such a way that they stir the soil in fine shape and keep a perfect mulch of finely pulverized earth on top of the moist ground. These teeth are in three rows, the first having only one, the second two, and the third two, and they are so placed that no two of them are in line and the tool is made sufficiently wide so that more than half of the row may be worked at once. This is not hard to run and does better work than the wider shovels,—doing as much work in two hours as a man can do in a day with a hoe, besides leaving the soil in better condition for the rapid growth of the plants. This mulch of dust has the effect of keeping the moisture in the soil, instead of evaporating as it would do without it. One can experiment on this for himself and will soon see that the result is good. After a rain, when the surface of the ground begins to dry a little, go over it with a rake or any tool that will scratch it thoroughly; the soil which is disturbed will soon become perfectly dry, when it acts as a mulch to that below it; it also is not so good a conductor of heat as the packed soil is. That which is left undisturbed will be found packed hard and dry in a few days, while the other is moist and mellow just below the surface.

Watering plants in the ground artifi-

ally is a good plan when one can water plentifully and is sure it can be kept up during the season. If it must be stopped after a time it had better not be begun. Daily surface watering of many plants causes the roots to form too near the surface, and much of the strength of the plant goes to putting out new roots close to the top of the ground. That is all right until watering ceases, when the roots, being so near the surface, are soon burned by the sun; then the plants, deprived of the water supply and many of their roots, droop, and, if they do not die outright, drag out a miserable existence until rain and colder weather come.

Seedlings and other small plants are much benefited by a mulching of grass clippings,—those from a lawn mower being in fine shape for the purpose. For larger plants, pieces of sod packed round them, grass side down, will be found useful.

During a dry season plants should not be allowed to go to seed, as it takes much strength and vitality from the plant. By keeping the seed vessels cut off,—or what is better, cutting the flowers as soon as they begin to fade,—much of the strength of the plant may be saved.

When it becomes absolutely necessary to water the plants, take a sharp stick and push it down into the soil near the roots of the plants in several places; fill the holes with water and then cover with dry earth. In case of small plants, whose roots do not go down deep, dig away a little soil from around them and water thoroughly in the hollow thus made; then cover over the wet place with dry dirt,

thus preventing the surface from becoming baked. By following this plan the plants receive the benefit of every drop of water given them, instead of having the greater part of it evaporate.

A few years ago, during an unusually dry summer, the shade trees along the streets in this place began to die. People became very much excited over it and tried in every way to save the trees, for many of them were fine and large and had been growing nicely for years until deprived of a part of their roots when a pavement was laid. Many trees died, but many more were saved in this way:

Taking the trunk of the tree for the center of a square of eight or ten feet, eight-inch sewer pipes were put down vertically at the four corners; the pipe ran down deep enough so that water poured in it would reach the roots. A hose was used and water poured in plentifully until the season of drouth was over.

Z.

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VICKS MAGAZINE, Rochester, N. Y.

LILY PONDS AND WATER LILIES.

At a late meeting of the Pennsylvania Horticultural Society Mr. Wm. Tricker read a paper on the subject of water lilies and other water plants, and their requirements. The following is a portion of the paper:

Where natural conditions exist and the location is in harmony with the surroundings, choose the lowest part of the ground for the water garden, dig out the soil to a moderate depth, which must be regulated by the natural conditions of the soil or location. In some cases the building of a dam across a small stream may be all that is necessary, but if the soil has to be dug out, and the same is of a clayey nature and will hold water without a cement or concrete bottom, so much the better. The depth may be from one to four feet, shallow at the edge and deepening towards the center. Where ice is formed in winter twelve inches thick it will be necessary to have more than twelve inches of water above the crowns of the hardy nymphæas, or they will be frozen. Although classed as hardy they will not bear actual freezing.

The form of the pond may be either circular, oval, regular or irregular; the latter is preferable. A bay in one part, a jutting promontory in another, a shelving shore here and a steep bank covered with shrubs at another point; however small the piece of water may be, a little good taste and judicious management will have the best effect. One thing is absolutely necessary: It must hold water. Nothing is so vexatious as a leaky pond or tank and a shortage of water; a running stream is not always to be commended, although of great benefit, if it can be diverted at will. A continuous stream from a spring

may lower the temperature of the pond too much and will not affect the hardy varieties. The tropical varieties require all the benefit that can be derived from solar heat.

This style of water garden may be too elaborate for the greatest number who desire to grow aquatics, and recourse must be had to cemented ponds and tubs, as circumstances will permit. Small ponds or tanks, built of masonry—either bricks, stones or concrete, according to existing local conditions. The most satisfactory tank I have made has been built of bricks and Portland cement. The depth of the tank may be two to two and a half feet inside when finished. It is advisable to let the tank or pond stand a few days, with water in it, or water and soil, as the case may be, before planting, or the young plants will suffer, if they are not killed outright. The plants may be grown in tubs or boxes, or soil may be placed in the bottom of the tank to the depth of twelve inches; in either case use good loam, soil enriched with thoroughly rotted manure—two-thirds loam to one-third of manure—and a light sprinkling of bone dust. Water lilies and all aquatic plants are voracious feeders, and require an abundance of good food. Good specimen plants or flowers cannot be grown on a starvation diet. For one plant of the Zanzibar lily, a tub, half a kerosene barrel, full of such soil is little enough. It would not be sufficient for a good plant of the nelumbium, but a nelumbium can be fed with liquid or other manure, which would be of great benefit; but this treatment would not apply to tubers when submerged in the tank.

Nelumbiums should not be grown in the same pond or tank as nymphæas unless there is ample room; if this is not the case then division walls should be built so as to confine the rambling roots within bounds. The tubers of the nelumbium should not be planted until vegetation is fairly set in and conditions present such as to stimulate growth at once. Nelumbiums can easily be raised from seed, but the plants will not bloom until the second season. Hardy nymphæas may be planted in April and at any time up to the first of September. A good plan to plant water lilies during summer in water from two to four feet deep, is to have them established in four, five or six-inch pots. When turned out of the pots the ball of soil with the roots intact can be dropped in the water at the desired spot; the weight will prevent the plant from floating and in a short time the leaves will appear on the surface and its roots be anchored below. The tender varieties may also be planted in this way, save that it is useless to plant them after June.

It is impossible to make a selection of water lilies suitable for all places and different persons. While with most persons the hardy varieties are preferable because of their staying or abiding qualities, I would say that no collection is complete without the tender varieties, any more than the flower garden is complete without tender plants. The soft shades of white, pink and yellow, are met in the

hardy varieties of nymphæas, but the deep red, carmine and crimson, and blue are found only in the tropical varieties. True, the deeper red and possibly the blue may yet be counted among the hardy varieties, but a few red of recent dates are lost sight of on account of their exceedingly high price. Another point in favor of the tropical varieties is their rapid growth and free flowering quality; and most of them very distinct and easy to cultivate, and the price within the limit of a small pocket-book; besides, fifty can be purchased for the price of one of the new hardy aristocrats. Among those that are within reach of all, and of easy culture and adapted to almost all purposes, are: *Nymphæa odorata*, *N. o. gigantea* (white), *N. o. sulphurea*, *N. Marliacea chromatella* (yellow), *N. o. rosea* (Cape Cod lily), *N. Zanzibarensis rosea* (pink), *N. Zanz. azurea* (blue), also the Egyptian lotus and the American lotus. These embrace all the leading colors, and are deliciously fragrant.

Time will not permit me to give in detail descriptions of the newer and select tropical and hybrid varieties, but a few words must be said in favor of the night bloomers. They must not be erroneously placed in comparison with the night blooming cereus whose flowers are of such short duration. The nymphæa flowers open after sunset and remain open until about 10 o'clock next morning. They open three successive days, or nights rather, and the day bloomers open and remain open three days. They are also well adapted for cut flower purposes.

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JAMES VICK, ROCHESTER, N. Y.

HERBACEOUS CALCEOLARIAS.

The requisite cultivation is of the simplest character. A packet of seed should be obtained from the best source, because, if a good start is made, and it is the gardener's desire, he may use seed from his own plants in succeeding years, and according to his care and discernment in the selecting of such seed, so will his strain improve or deteriorate. The seed should be sown about mid-summer, or during July, in pans which have been filled with light sandy soil for the purpose. The same care that one would take if sowing begonia seed should be given. Gently press the seed into the soil, and place a piece of glass over them. They may be stood in a shady place in a cool frame or a cool greenhouse, but as soon as the first leaves appear the glass must be gradually removed and the seedlings given an abundance of light, but not strong sun. The usual practice of pricking out seedlings when large enough and keeping them in a suitable place until they are ready for three-inch pots, should be followed. The plants will soon fill these pots with roots, and it will be then desirable to repot them into some about five inches in diameter, using a nice light compost such as that in which a fuchsia would do well. In these pots they may remain during the winter, and the hardier they can be kept during that time the better for the plants. Any dry frost-proof frame will do, but on no account use much fire-heat—rather cover with mats in the event of frost.

Not later than the middle of February the plants may be put into seven-inch pots (or larger if desired), and from this

time they should be encouraged to make strong and sturdy growth. In the final potting nothing exceptional is needed in the compost, which may consist of fibrous loam, plenty of leaf-mold, and a small quantity of sand. Add to this some spent mushroom bed manure, or, better still, decayed sheep-droppings. The plants should commence to bloom about the end of April or beginning of May, and they will be a success in exactly the same proportion as the cultivator has attended to the details in the necessary culture, one of the most important items in which is to preserve the plants from the attacks of green-fly.—*Gardeners' Chronicle*.

FRUIT STORAGE.

It is not necessary to go to any extravagant expense, and, besides, it is not needed. Select a gravelly hillside. Excavate to the required size and depth, and then wall it up with stone picked off your fields. Then roof it over. A double roof is best, built in the following manner: Lay a plate on the wall and put on rafters and sheathing as for a roof. Cover sheathing with building paper. Over this lay a second course of rafters with sheathing as before. Fill in between the two courses of sheathing with sawdust. Then put on the shingles. Before shingling a good ventilator should be put in, running up through the roof. Then with double doors to your cellar you are prepared to hold your apples. Care should be taken to see the cellar is well drained and well ventilated. The main thing is to keep as near an even temperature as possible. In warm weather in the fall, after the apples are put in store, the ventilators should be opened at night and closed in the day time. All the work on a cellar like this

can be done with the ordinary help on the farm. It does not require a skilled mechanic to excavate the cellar, to make the mortar or lay the wall. The roof and doors you can build as well. The work can be done at odd times during the summer, when you would not usually be otherwise engaged.

A good and satisfactory storage for your fruit or vegetables can be put up even cheaper than the one I have described, and it would pay for itself almost the first season. After excavating the cellar and building the wall as before, set up a row of posts along the center the long way of the cellar, high enough when a ridge pole is put on to support the upper ends of the rafters. Cover the rafters with rough boards as for roofing, and then cover with dirt, well packed down and thick enough to turn the water and keep out the frost. The timbers should be of good size, sufficient to sustain the weight of the roof.

A fruit house entirely above the ground can be put up at not a very large cost, in which an even temperature can be maintained and which will keep out the frost, as follows: Prepare a good tight foundation of stone for the building. Use 2x4 inch studding for the sides. The sides should be about eight feet high. Sheath on the outside of the studding with inch lumber and cover this with another course of studding, sheathing and building paper. Do this until the wall has three air spaces. The roof is constructed in the same way to protect from heat as well as frost.

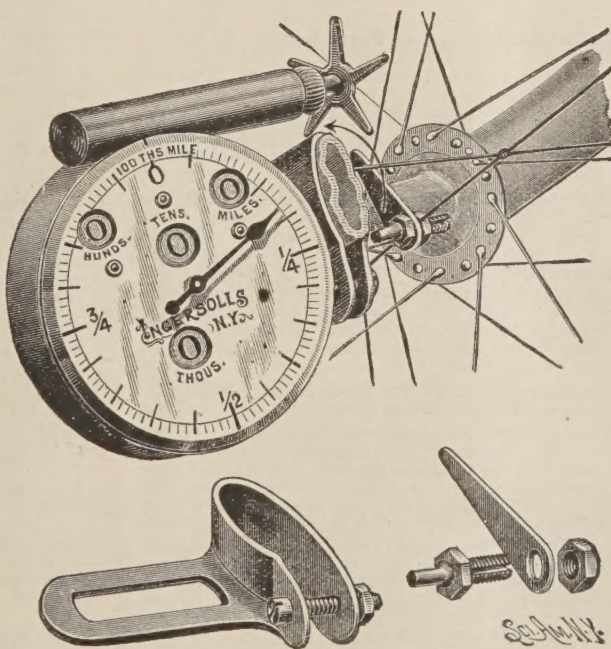
The writer has recently constructed a cellar and fruit house over it, as follows: The floor between the cellar and fruit room above is laid with 2x8 joists, ceiled above and below with inch boards and the space between it is filled with sawdust. The studding for the sides are 2x6, eight feet high. Outside it is sheathed lengthwise with inch lumber, and on this is a layer of building paper. Then comes a course of inch pine siding and battened. On the inside a layer of building paper is tacked to the studding and then a course of inch lumber. The six-inch space between the two courses of sheathing is filled with sawdust well packed. Building paper is tacked to the under side of the rafters, and an inch pine ceiling is put on, and the four-inch space between the roof boards and ceiling is filled in with sawdust. It is ventilated with windows at each end.

The main points to be kept in view, when planning a storage place for our apples, are good drainage, good ventilation and security from heat and cold. Here in this climate we are very apt to have in the late fall, and also during the winter months, warm spells of weather, and during these warm spells the ventilators should be opened at night after the atmosphere has become cool, and kept closed during the daytime. In this way nearly an even temperature can be maintained, not so low, perhaps, as in a costly cold storage plant, but sufficiently low to meet the requirements of the average grower.—*From a paper by J. M. Purdy, read before the Minnesota Horticultural Society.*

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FEEDING ASPARAGUS.

If the crop of this vegetable be deficient in quality or quantity, it is just as likely to be the result of over-feeding or untimely feeding as from insufficient food. I have seen excellent crops on land containing little manure, but what food was supplied was given at the right moment when the plant could absorb the nutriment. Heavy applications of manure in autumn are fatal to many plants, especially in heavy or wet land. As in the case of asparagus, this is often accompanied by liberal dressings of salt, the plants have great difficulty in living through the winter. Many roots actually decay from this cause, and the result is poor grass and weak plants. In the case of other vegetables, we do not apply food when the crop is cleared or the plant is at rest. It is impossible to obtain good results by such treatment; the plants being at rest cannot absorb the food to advantage. I am aware that to a certain extent the roots are active, but not sufficiently so as to require large quantities of food. The crowns, or portion of the stem which produces the heads, are formed during the previous season, and when these are forming is the time to apply food. If asparagus is forced, the growth obtained is in comparison to the strength of the crowns and the conditions of the roots, and no amount of food given during the forcing would increase its bulk or add to its quality. As to manuring, a few words will suffice to point out the value of summer dressings from May to September, and if plenty of food is given at that season there will be much better grass. The

time named, however, is a busy season, and the asparagus beds, after cutting, are often left to look for themselves. In many gardens labor is none too plentiful, and the beds are left till late in the fall. With a free top-growth, it may be asked, how can foods be best applied? Liquid manure is one of the best manurial agents during the summer months. If the beds can be irrigated or flooded, say fortnightly, or even monthly, with liquid from stable-yards, it is invaluable, and there is no better season to apply salt than from May to the end of August. It gives the saline matter necessary to the plants, and it checks the growth of weeds, which thrive so freely in well-manured land. Salt applied late in autumn in my opinion does more harm than is imagined; it kills weak plants, keeps the ground cold and wet, and causes a late growth. Applied once a month during the summer, it is beneficial, and I prefer to wash it down to the roots by copious supplies of moisture. Liquid manure from animals possesses much saline matter. Fish manure is one of the best summer fertilizers I have tried; and given at two or three dates at about three weeks' interval and plenty of moisture after, it gives much strength to the newly-formed crowns. The same remarks apply to dressings of guano given in showery weather at times during growth, if given in small quantities. It may be asked, what time is manure to be applied to the surface of the beds? And I advise in the early part of the summer. It then serves a double purpose,—it prevents the drying of the beds, and if water is given freely it is soon washed down to

the roots, but it should be thoroughly decayed. It is of great help in retaining the foods advised above; if the soil is shallow, heavy dressings are not necessary if the food above is given, and in all cases where practicable I advise growing the plants on the flat.—G. Wythes, in *The Gardeners' Chronicle*.

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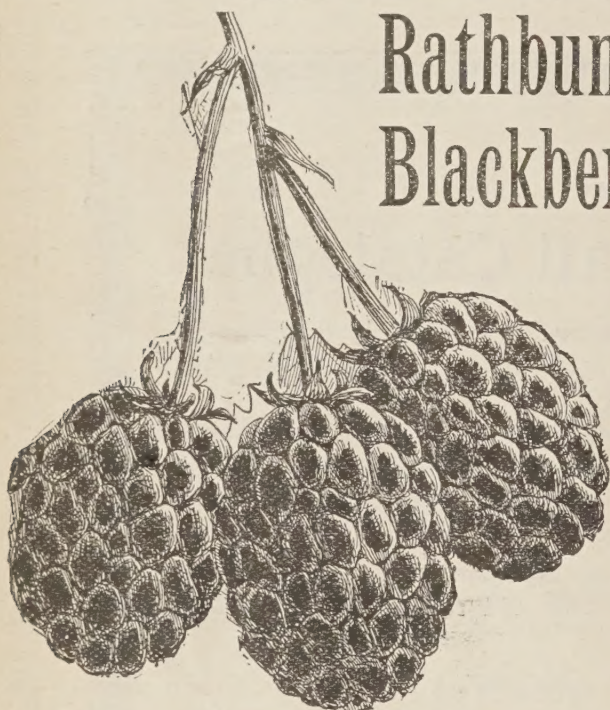
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Digitalis purpurea, in varieties; purple, white, rose color, and spotted, or mixed varieties, each	05	M. alpestris, blue, white, rose, each	10	Honeysuckle	05
Delphinium formosum, Coelestinum, Nudicaule, and Chinese varieties, each	05	M. alpestris robusta grandiflora, new	10	Lychnis Chalcedonica, bright scarlet, double white, each	05
New varieties mixed	10	M. palustris, white and blue, the true Forget-me-not	10	L. Haageana, vermilion	10
Daisy, Double, best German mixed	15	M. Azorica var. coelestina, flowers sky-blue	15	“ hybrida, several colors, white, rose, red, etc.	10
White, Longfellow, Snowball, each	15	Mixed varieties	10	L. Fulgens, brilliant red	10
Lobelia cardinalis	10	Sweet William, mixed seeds of all the best varieties	05	L. grandiflora gigantea, large bright red flowers	10
Hollyhock, Double, mixed seeds from the best named varieties	10	Adonis vernalis, or Pheasant's Eye	05	Lupinus, mixed varieties	05
Pansy. See advertisement, 4th cover.		Asperula odorata, fragrant Woodruff	05	Linum perenne, in different colors, blue, white, rose	05
Primula eliator, the Polyanthus	10	Glaucium corniculatum, or Horned Poppy; ornamental foliage	05	Linum, yellow	10
P. vulgaris, the wild English Primrose	10	Geum atrosanguineum, a plant with crimson, double flowers	10	L. Narbonne, splendid variety	10
				Mixed varieties	05
				Pentstemon, mixed colors, handsome	05



Rathbun Blackberry

See report of a visit to the Rathbun Farm, on page 152 of this number.

It is with a sense of satisfaction and pleasure that we offer to the public at this time a new fruit of the highest quality, and which we have previously brought to notice in our publications. The **Rathbun Blackberry** is admired by everyone who has seen it, and it only waits to be known to be universally appreciated. No one who has seen it has been able to criticise it. We have now watched it with the greatest interest for two years, and are not able to say it has a single weak point. Believing that in introducing it we are advancing the interest of fruit-growers and the general public, we have no hesitation in asking a consideration of its claims. Its quality is so superior that it will seem like a new kind of fruit to those accustomed to any of the old and well known varieties. The plant sends up a strong central stem and makes but few suckers; it branches freely, and tips of the shoots bend downwards, and, when brought in contact with the ground and covered with soil, take root and propagate themselves in this manner. The plant is very productive, the fruit very large and handsome and without any hard core, sweet and delicious through and through, high flavored, seeds small and scarcely noticeable.

SUMMARY

Plant—Vigorous, branching, making plenty of fruiting wood; in hardness it is very satisfactory, as far as tested; propagates from the tips of the shoots; produces fruit in great abundance.

Roots—Sucker but very little; run deep and branch freely, making the plant strongly drought resisting.

Berries—Very large, measuring from an inch and one-eighth to an inch and one-half in length, and from one inch to one inch and an eighth in diameter. Color intense black, with high polish. Flesh juicy, high flavored, soft throughout and without any hard core, sweet

and delicious. Carry well to market, retaining their form and making a handsome appearance. First quality for table use in a fresh state, or for canning, and also for cooking purposes.

Single plants, 50 cents each; one dozen plants, \$5.00.

Columbian Raspberry.

ITS HISTORY The Columbian is a seedling of the Cuthbert, which grew near a Gregg blackcap, and is believed to be a cross between these two varieties. It has now been under trial for ten years, and has been tested with most flattering success at a number of State Experiment Stations, and by leading horticulturists in different parts of the country. It has also stood the test of field culture, and has been thoroughly proved to be a vigorous grower, quite hardy, immensely productive of fruit of large size, and great excellence.

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- 1—A most vigorous grower, canes ten to sixteen feet in length, and often over an inch in diameter; strong and woody; light green, changing to bright red in autumn.
- 2—Foliage very handsome and healthy, light green, retaining its health and hue until killed by autumn frosts.
- 3—Roots large and spreading, penetrating the soil to a great depth, thus enabling it to resist drouth successfully.
- 4—Propagates readily from the tips, and never suckers from the roots.
- 5—Very hardy. Has endured 28° below zero without freezing.
- 6—Fruit very large, often an inch in diameter; shape somewhat conical; color dark red, bordering on purple; adheres firmly to the stem and will dry on the bush if not picked; seeds small and deeply embedded in a rich juicy pulp, with a distinct flavor of its own, making it a most delicious table berry.
- 7—For canning purposes it is much superior to any other for the following reasons: It holds its form better, is of a more beautiful color, is sweeter and richer in flavor, shrinks less in processing.
- 8—Makes a fine evaporated berry, retaining color, form and flavor in a remarkable degree, and selling for fully one-third more than other berries.
- 9—Fruiting season very uniform, extending from July 12th to August 15th, and maintaining its high quality to the last.
- 10—Its manner of fruiting is peculiar to itself, each berry growing upon a separate stem from two to four inches long, from which it is removed without crumbling.
- 11—Excellent shipper, never crumbling or crushing in handling or transportation.
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